مجلس أبـــوظبـي للـجـودة والـمـطابـــقـة
ABU DHABI QUALITY & CONFORMITY COUNCIL

ABU DHABI OCCUPATIONAL TERMS

Electrical Technical Supervisor

25 JULY 2017
FIRST EDITION

Contents

Amendment Page

This Amendment Page is updated and issued with each set of revised and/or new pages of the document to help ensure that each copy of this Abu Dhabi Occupation Term (ADOT) contains a complete record of amendments.

This Occupational Term is a live document which can be amended when necessary. QCC can review stakeholder comments in order to review and amend this document; ultimately resulting in an issuance of an updated version, if necessary.

Log of Amendments						
Amendment			**Discard**		**Insert**	
No.	**Date**	***Sections Changed**	**Page(s)**	**Issue No.**	**Page(s)**	**Issue No.**

About the Abu Dhabi Quality & Conformity Council

The Abu Dhabi Quality and Conformity Council (QCC) was established by law No. 3 of 2009, issued by His Highness Sheikh Khalifa Bin Zayed Al Nahyan, President of the UAE. QCC is responsible for the development of Abu Dhabi Emirate's Quality Infrastructure, which enables industry and regulators to ensure that products, systems and personnel can be tested and certified to UAE and International Standards.

Products and services certified by QCC receive the Abu Dhabi Trustmark. The Trustmark is designed to communicate that a product or system conforms to various safety and performance standards that are set by Abu Dhabi regulators.

Foreword

The QCC, along with relative stakeholders, had developed occupational terms for 21 unique occupations in the construction sector. This was required because of a high dependence on migrant labor to fill key technical roles in the skilled trades and concerns about the productivity of the industry where skills investment is inconsistent.

The occupational terms are professional standards that personnel must meet in order to perform the jobs they are assigned to produce quality outcomes. In addition, it is required that any person working on the design, construction, installation, operation or maintenance of Electrical Installations in the Emirate of Abu Dhabi must work in accordance with the requirements of the Electricity Wiring Regulation and others any related regulations issued by the Department of Energy .
The Government of Abu Dhabi, under the leadership of His Highness Sheikh Khalifa bin Zayed Al Nahyan, President of the UAE and Ruler of Abu Dhabi, and His Highness Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi, Deputy Supreme Commander of the UAE Armed Forces and Chairman of the Abu Dhabi Executive Council, has invested heavily, and at high levels of professionalism and safety, in the Infrastructure of Abu Dhabi. Therefore, it is crucial and obligatory to encourage the presence of skilled workmanship to maintain the quality infrastructure value in the Emirate of Abu Dhabi in particular and the United Arab Emirates in general.

Acknowledgments

The QCC would like to thank the members of the working group listed below:

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Occupational Terms

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<tr><td>7.</td><td>Entry information and prerequisites</td><td>• Electrical Engineer Diploma Certificate or Equivalent qualification
Note: Equivalent qualifications may include but not limited to the following areas: Electromechanical, Electronics, Control, Mechatronic, Power and Communication.</td></tr>
<tr><td>8.</td><td>Grading</td><td>Application unit: Competent/Not Yet Competent</td></tr>
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No.	Field	Details	
9.	Industry sector	Construction , Energy, Electrical Works (internal wiring) & Maintenance	
10.	Developed by	Government Entities	Abu Dhabi Quality & Conformity Council, , National Qualification Authority, Abu Dhabi Distribution Company, Al Ain Distribution Company
11.	Endorsement date	TBD	
12.	Frequency of review	2 Years	
13.	Version No.	1	
14.	ISCO-08	International Standard Classification Of Occupations It is considering as reference see reference page Minor Group 741 – Electrical Equipment Installers and Repairers Unit Group 7411 – Building and Related Electricians	
15.	Years of Experience	4 Years	

Key terms

Term	Description
Hazard	Any substance, physical effect, or condition with potential to harm people, property or the environment.
Low Voltage	An a.c. voltage below 1000V between phases, or below 600V between any phase and earth or, a d.c. voltage below 1500V between conductors, or below 900V between any conductor and earth.
High Voltage	An a.c. voltage greater than Low Voltage and less than 36 KV between phases or 21 KV between any phase and earth
Health and Safety Regulations	Implementing, monitoring and reviewing the conditions of a safe and healthy workplace, Good knowledge of health and safety requirements and Applicable health and safety regulations and standards including OSHAD-SF and requirements about good knowledge of emergency preparedness and response requirements.
Live Electrical Lines	Cables or wires, which connected to the source of power and the power switch is on.
Permit to Work	System is a formal recorded process used to control work which is identified as potentially hazardous and allows central control and ongoing monitoring of higher risk activities to ensure the activities are authorized, carried out by qualified personnel
Lock out /Tag out	Is defined as the introduction of device to isolate energy sources & placement of tag on isolated device to show that equipment is out of service for repair or maintenance work
Earthing	The conductive mass of Earth, whose electrical potential(Voltage) at any conventionally taken as Zero
Risk	Risk is the product of the measure of the likelihood of occurrence of an undesired event and the potential adverse consequences which this event may have upon: · People – injury or harm to physical or psychological health · Environment – water, air, soil, animals, plants and social Risk = frequency x consequences
Personal Protective Equipment (PPE)	Any device, appliance or equipment (including clothing or sunscreen affording protection against the weather) designed to be worn or held by an individual for protection against one or more health and safety hazards, or minimize their exposure to workplace risks. It includes, but is not limited to, items such as facemasks and respirators, eye protection, high visibility clothing, coveralls, goggles, helmets, safety harnesses, gloves and footwear.
Building diagram	A technical drawing of a structure or building that is drawn in a scale that is proportionate to its real-world dimensions. Building drawings include site plans, floor plans, elevations and sections. Drawings that provide additional specific/specialist details are known as Coordination Drawings.
Load schedule	Schedule shows the details of the electrical circuit including wire size, protective device rating , connected and diversity load for each circuit .
Cross Section	A section is a type of building drawing. It represents a vertical plane cut through the structure.

Elevation	An elevation is a type of building drawing. It is a drawing of the exterior or interior of a building or structure as seen from a horizontal position - without dimensional perspective.
Floor plan	A floor plan is a building drawing. It is a drawing to scale showing a view from above, of the relationships between rooms, spaces and other physical features at one level of a structure.
Electrical Layout drawing	Is a type of drawing that shows information about power, lighting and communication point's positions in combination with architectural drawings.
Site Plan	A site plan is a type of building drawing that shows a new or existing building's position in relation to the boundaries of the block of land.
Wiring diagram	Is a type of drawing that shows the detail of the connection between the electrical lighting , power and other electrical equipment with its supply .
Isolated	Disconnected from all possible sources of electrical energy by opening of switches, opening or withdrawal of circuit- breakers, removal of fuses, links, connections and the like and rendered incapable of being energized unintentionally. Isolation of refrigerant gas lines.
Cord	A cord to conduct power to an electrical appliance.
Terminate	The connection of a cable or cord to any electrical apparatus.
Work instructions	Written or verbal description of the work to be undertaken by an individual or work team.
Electrical Wiring regulations	Rules established by the electrical regulator that govern the design, construction, installation, maintenance and operation of safe and efficient Low Voltage (LV) Electrical Installations in all Premises within the Emirate of Abu Dhabi.
Connected Load	The aggregate load of Appliances and other electrical equipment at a Premise.
Diversified Load	The load at a Distribution Board, at the Electricity Intake or at any other point in an Electrical Installation, calculated using diversity factors.
Connection Point (CP)	the point which defines the boundary between the Owner's Electrical Installation installed at a Premises and the main cable or equipment owned by the Distribution Company.
Distribution Board	an assembly designed for housing isolation switches and Protective Devices and for connecting multiple Circuits, including their associated neutral and Earth Conductors.
Electrical Installation	An Electrical Installation comprises any fixed or temporary cable, switchgear or other electrical equipment or apparatus within a Premises or other place where there is an electricity supply (including outdoor locations). Fixed or portable electrical Appliances are not considered part of the Electrical Installation, although these Regulations do include requirements for the connection of Appliances (e.g. plugs and socket-outlets).
Electrical Installation Certificate	a certificate in the format indicated in these Regulations which is issued by a Licensed Contractor after completion of work on an Electrical Installation and provided to the Customer or Owner of the Premises.
Licensed Contractor	A person, entity or company which has been assessed by the Distribution Company as competent to work on Electrical Installations and issued a Competency Licence by that Distribution Company.
Premises	Any occupied or unoccupied land, structure, building, enclosure or other place. Such locations include, but are not limited to, apartments, villas, offices, shops, warehouses, hotels, commercial complexes, leisure complexes, public buildings, parks, farms, temporary Electrical Installations, entertainment arenas, construction sites, tents, outbuildings, caravans, street lighting and traffic signs.

Performance Criteria

Element: Handle creation of job responsibilities and give tasks to workers

Unit	1. Providing information to all workforce personnel regarding their job responsibilities
PC 1.1	Assemble and review relevant information used in the preparation of the project plan and clarify any information which is not clear
PC 1.2	Communicate and agree a programme, methods and attendance with the people who will be doing the work
PC 1.3	Plan and obtain sufficient resources and attendance of the appropriate type which will meet the project requirements and timescales
PC 1.4	Organise and control the site and resources so that conditions are safe, the site is tidy and creates a favourable image of the organisation, its products, its services and the project
PC 1.5	Brief workers about daily tasks that need to be carried out

Element: Perform Inspections

Unit	2. Perform inspections to ensure workers performance, quality of work and schedules are being followed
PC 2.1	Determining suitable methods of carrying out operations which are technically sound, safe, economic, feasible and consistent with site requirements
PC 2.2	Obtain more information from other sources where the available project data is insufficient
PC 2.3	Evaluate the work methods against relevant technical, legal and project criteria
PC 2.4	Advise and recommend the work method to decision-makers
PC 2.5	Analyse the selected work method for its activity content and quantify it
PC 2.6	Ensure a method statement is prepared, in line with technical, legal and project criteria, and approved prior to commencement of work

Element: Ensure that all required tools are available to the workers

Unit	3. Ensure the materials are suitable and available for work
PC 3.1	Ensure materials are suitable and available for the work
PC 3.2	Coordinate with store keeper and Engineer for deliveries and material orders
PC 3.3	Identify and record problems with supply, discuss the information with suppliers of materials and pass it on to decision-makers
PC 3.4	Check stock records regularly and calculate what replacement stock will be needed
PC 3.5	Identify opportunities for improving the use of stock and stock turnover and recommend improvements to decision-makers

Element: Handle onsite incidents and emergencies in a proactive manner

Unit	4. Implementing, monitoring and reviewing the conditions of a safe and healthy workplace, Good knowledge of health and safety requirements and Applicable health and safety regulations and standards including OSHAD-SF and requirements about good knowledge of emergency preparedness and response requirements.
PC 4.1	Encourage a culture of health, safety, welfare and environmental awareness
PC 4.2	Identify and recommend opportunities for improving health, safety and welfare for people on site
PC 4.3	Ensure the workforce and visitors to the site are inducted and check the competence of those under your control
PC 4.4	Maintain accurate and appropriate statutory notices and hazard warnings
PC 4.5	Ensure serviceability of health, safety, welfare and environmental protection equipment and resources in order to comply with current regulation
PC 4.6	Implement systems which meet organisational and statutory requirements for the identification of hazards and reduction of risks; reporting accidents and emergencies and preventing recurrence
PC 4.7	Follow the engineer in charge under engineer responsibilities for Implementation of health, safety, welfare and environmental protection systems regularly in accordance with organisational and statutory requirements
PC 4.8	Identify and report any special site conditions which do not comply with organisational and statutory requirements

Element: Use diagram and schedules

Unit	5. Follow work instruction for using diagrams and schedules
PC 5.1	Follow instruction and layout plan on wiring diagrams and Load schedules
PC 5.2	Use the basic building diagrams that are appropriate to the work in line with instruction from the supervisor and including diagram layouts, conventions and common symbols
PC 5.3	**Determine location of equipment from the basic building diagrams and schedules for application**
PC 5.4	**Use basic information from wiring diagrams of common symbols and conventions**
PC 5.5	**Use information from** Load schedules **for application to work undertaken**

References

- http://www.ukstandards.org.uk
- www.nsdcindia.org/nos
- www.oshad.ae
- https://qcc.abudhabi.ae/Documents/ADDC%20Electricity%20Sector%20Approval%20Process.pdf
- **Process for Approval of Licensed Contractors in the Emirate of Abu Dhabi , Department of Energy of Abu Dhabi Emirate**
- **The Electricity Wiring Regulations (Third Edition) 2014 , Department of Energy of Abu Dhabi Emirate**
- **http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_172572.pdf**